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AN APPARATUS AND A METHOD OF MEASURING FLUID PROPERTIES USING A SUSPENDED PARALLEL PLATE DEVICE

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Abstract

This invention covers a device and a method of measuring properties of uniform fluids and of complex fluids with greater accuracy, speed, and precision. Human body fluids are an example of complex fluids and are called by such names as: aqueous humous, vitreous humour, bile, blood, blood serum, breast milk, cerebrospinal fluid, cerumen (earwax), endolymph and perilymph, female ejaculate, ; gastric juice, mucus, peritoneal fluid, pleural fluid, saliva, sebum (skin oil), semen, sweat, tears, vaginal secretion, vomit, and urine. This invention has the potential to provide significant improvement in the speed, accuracy, precision, and cost of determining physical and mechanical properties of fluids. Such properties may include viscosity, ; shear rate, clotting time, stiffness, velocity, drag energy, temperature, storage modulus (elastic modulus -G"), dielectric constant, resistivity, ; and percent of the constituents that make of the complex fluid. This invention uses micro-electromechanical (MEMS) manufacturing techniques in its preferred embodiment. MEMS manufacturing offers competitive advantages over other devices because of its low cost, small size and low power requirements. This suspended parallel plate design offers superior accuracy, sensitivity, and stability.

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References

- 12-035Application

Status of Availability

This invention is available for licensing exclusively or non-exclusively in any field of use.

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